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MUNICIPAL DEVELOPMENT IN NORTHEASTERN ONTARIO: COPPER CLIFF AND SUDBURY

Mary Ann Beavis, editor

INSTITUTE of URBAN STUDIES

UNIVERSITY of WINNIPEG

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UNIVERSITY of WINNIPEG

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INTRODUCTION

The two papers in this volume both deal with the history and development of resource communities in Northeastern Ontario. The first paper, "The Economics of Housing in a Company Town" by Eileen Goltz (Laurentian University), was initially presented at the Canadian Urban and Housing Studies Conference held by the Institute of Urban Studies in February 1988. This essay, a substantially revised version of the conference presentation, uses the company town of Copper Cliff, Ontario (now part of Sudbury) to challenge "the common perception that company-owned housing was provided primarily to attract, retain and socially control a workforce." Goltz argues that, in Copper Cliff, profit, in addition to social engineering, was a primary motive for the provision of company-owned housing. The second paper, "Urban Restructuring and Revitalization: The Sudbury Case Study" by Oiva Saarinen (Department of Geography, Laurentian University), traces the history of the city from its modest beginnings in the late 1800s as a temporary construction site for the CPR, through its rise and decline as a specialized resource community dominated by exogenous forces, to its present progression towards planned urban sustainability, balancing endogenous and exogenous factors. These papers give some interesting insights into an area which, a recent article in *Maclean's* reminds us, was once known as "the armpit of Northern Ontario," famed as "the place where American astronauts came in 1971 to train for walking the lunar landscape," but which now is being held up as an example of urban revitalization for the rest of Canada: "if Sudbury can revive itself, maybe the country will follow" (Newman, 1991, p. 40).

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THE ECONOMICS OF HOUSING IN A COMPANY TOWN

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Company-owned housing in Canada has traditionally been perceived as the means whereby a company first attracted and then retained a stable workforce. That such housing also provided a company with a method of socially controlling the population, and spatially segregating it along ethnic and occupational lines has been accepted.[1] Since company housing was usually rented out at rates lower than those prevailing locally, there has been a perception, encouraged by the company, that such housing was provided at a loss to the company's treasury.[2] However, companies rarely suffer financial losses through philanthropy, and housing was a means of maximizing profits.[3] All of these factors—the attraction and retention of employees, spatial segregation, social control and the maximization of profits—were enhanced when company-owned housing was provided in a company-owned town, where the company had complete jurisdiction over all aspects of community life.

Copper Cliff, in Northeastern Ontario, was such a town. Owned first by the Canadian Copper Company, and later by the International Nickel Company, this community existed as a company town from 1886 to 1972. It was a mining, smelting, refining and administrative centre in which the controlling company owned all land. By retaining ownership of all town lots, the company was able to retain complete control of the town, and avoid the cost of developing and filing subdivision plans. In Copper Cliff, industrial expansion and increased production, if accompanied by additions to the workforce, were usually followed by company-sponsored house-building programmes, and the housing served all of the purposes outlined above. However, when the financial benefits of company-owned housing in Copper Cliff ceased, divestment occurred, and the retention of a labour force, spatial segregation, and social control assumed positions of less importance and were, therefore, ignored. Manuscript sources from the International Nickel Company Archives in Sudbury have been used to provide the basis for the argument that the financial benefits of house ownership were, for the company, of prime importance.

Mining operations were begun by the Canadian Copper Company (CCC) at the Copper Cliff Mine, five miles west of Sudbury, in the spring of 1886; in the fall, the first company houses were built to accommodate the Anglo-Saxon element of the expanding workforce. The company was anxious to retain these people, many of whom had been recruited from the United States, the British Isles and other parts of Canada, and had been trained in the mining and metallurgy industry. The dwellings were located in an area segregated from that occupied by non-Anglo-Saxons, a group which originally included only Finns and French Canadians, and was later augmented by Poles, Ukrainians and Italians. These people were excluded from the company housing area, and were expected to provide their own accommodation on

land leased from the company.[4] At this time, the company was content with spatial segregation based on ethnicity; occupational segregation was introduced later. Planning, until the introduction of occupational segregation, was of a rudimentary nature, and exemplified the *laissez-faire* philosophy applied to the additive type of first-generation development common in resource towns built before 1920.[5]

Social control was exercised through both land leases and house rentals. The threat of lease cancellation or eviction from company-owned housing was sufficient to discourage behaviour the company might consider inappropriate. Moreover, the provision of housing and leased land minimized the attractions of life in the fringe development growing at the eastern edge of company property, away from company jurisdiction. The fringe community was populated by labourers, most of whom were non-Anglo-Saxon,[6] and the entrepreneurs who provided services, legitimate and otherwise, to this population.

The establishment of a smelter and roastyard complex, less than a mile east of the Copper Cliff Mine in 1889, provided the impetus for a population increase. Among those attracted by the new industries were Anglo-Saxons, French-Canadians and immigrants from Eastern Europe. Most of the non-Anglo-Saxons were labourers, or "helpers," and built their own houses, near the smelter, on lots leased from the company. The increase in the Anglo-Saxon component of the population, which included skilled and supervisory employees, provided the catalyst for the company's new house-building programme—a programme from which the company expected to gain a profit.[7]

Although the company built houses to retain a stable workforce, and used those dwellings to control and segregate the population, it provided no housing until both the building costs and the expected returns had been calculated. Profit, not philanthropy, was the motivating factor, and the expectation of profit from the provision of housing is evident in the correspondence which flowed on a daily basis from CCC personnel in Copper Cliff to the company's head office in Cleveland, Ohio. For example, in October 1889, E. J. Peters, the general manager at Copper Cliff, and a voluminous letter-writer, stated that the company was receiving 20 percent interest for the small houses then being constructed. He also noted that semi-detached houses, costing $500 to build, would rent for $120 per year.[8] Thus the capital costs would be recovered within five years, and since maintenance costs were negligible, the profits would have been substantial. The company, at this time, had no obvious policy of obtaining a uniform return on its housing. That occurred later.

Most of this early housing was built parsimoniously, and the company's desire to economize was reflected in the substandard roofs of six log houses built in 1888. Two years later, when J. D. Evans, the company's new general manager, requested permission to replace the poor-quality roofs, he reminded the company that the houses had been built at a cost of a hundred dollars each, and were each being

rented for five dollars per month. Thus the capital costs of building had been recovered in fewer than two years.[9]

In 1890, the company purchased a privately-built store, and leased it to a merchant, prompting Evans to remark that 37 percent interest was not a bad investment.[10] He did not explain the statement. In 1892, he suggested that the store be converted to a dwelling as part of a modest house-building programme which included the construction of four semi-detached units and two single dwellings. He calculated that building and renovation costs would amount to $2,800, and that the seven units would rent for $384 annually.[11]

The erection of another smelter, and the establishment of more roastyards towards the end of the nineteenth century, were accompanied by another population increase, which in turn was followed by a house-building programme that spanned the years 1898 to 1901, and accommodated only Anglo-Saxons. The company also used the milieu in which its housing was situated to assist in its profit maximization schemes. By 1901, the CCC was involved in smelting and mining operations, and owned land and buildings, including houses, in several townships. Some of the company's industries, housing and land were located in unorganized townships where the company was not subject to municipal taxation. Unorganized townships in Ontario have no municipal government, hence have no facilities for assessing property and collecting taxes. Within such townships, the company was liable only for provincially imposed statute labour for road work, and for school tax if a school existed. The company property located within organized townships, however, was assessed and taxed, and the taxes collected, by the agents of elected municipal councils. Copper Cliff, several CCC mines, a smelter and mineral lands were within the organized Township of McKim and were, therefore, subject to assessment and taxation by the McKim Township Council. Following the 1892 incorporation of Sudbury, Copper Cliff, as the largest centre of population, was the source from which most of the township taxes were obtained. The only alternative to the acceptance of McKim Council's financial control of the company town was the incorporation of Copper Cliff. As an incorporated town, it would become a distinct municipal entity with assessment and tax-gathering powers.

The company was assessed at a preferential rate by McKim Township. This was not a unique situation; such rates prevailed for all mining companies in Ontario. Since 1869, mineral lands, and the buildings used in the extraction and reduction of ores, had been assessed at values equivalent to those accorded neighbouring agricultural lands and buildings.[12] Besides paying modest taxes on the land and buildings assessed by McKim Township, the only other tax for which the company was responsible was income tax, also assessed by, and payable to, the township.[13] The company paid no provincial mining

taxes or royalties; these had been abandoned by the province in 1869. When a royalty was re-imposed in 1891, a seven-year exemption was granted, and the royalty was repealed in 1900.[14]

The CCC was reluctant to continue paying taxes which benefitted a municipality it did not control. As A.P. Turner, the company's assistant manager at Copper Cliff, explained, the company paid the largest share of the taxes collected in McKim Township, and little of that money was expended in Copper Cliff.[15] Partly to escape McKim Township taxes, the company had its town incorporated effective January 1, 1902. This action removed the company town, and, coincidentally, the mines and mineral lands, from township jurisdiction, thereby allowing the company to gain control of its assessment. The town, as an incorporated municipality, was eligible to receive provincial grants, and these were utilized to reduce taxes, most of which continued to be paid by the company.[16]

The company used incorporation as a tactic to control the level of municipal taxation in areas where it owned housing and operated industries within organized townships. Correspondence from officials in Copper Cliff and the history of incorporation in the area confirm this statement. In 1910, Turner urged the superintendent of the newly-opened Dome Mine, near Timmins in Northeastern Ontario, to seek incorporation of the townsite and thus remove it from the taxing powers of the Township of South Porcupine. This mine was being developed by CCC executives, including Turner, and, in 1910, the townsite consisted of six shacks, a clubhouse, an office, a storehouse, a hospital and the superintendent's house.[17] Frood Mine, in McKim Township, was incorporated at company insistence in 1914, although its population seldom exceeded 200. The company, which owned all housing in this hamlet, had no desire to continue paying taxes to the McKim Township Council.[18] Incorporation, however, was never sought for the Creighton Mine Townsite, located in an unorganized township, where no taxes were levied.

Although executive homes were being clustered in one area, there is no evidence that occupational segregation had been actively pursued by the CCC. Houses were provided in the company housing area, where convenience, rather than occupation, dictated. Thus, an engineer's house might be located beside that of a miner. True occupational segregation appeared only after the 1902 merger of the CCC and several other concerns to form the International Nickel Company (INCO) with headquarters in New York City. This holding company, through its subsidiary, the CCC, continued the policy of providing housing only for Anglo-Saxons, and expecting non-Anglo-Saxons to build their homes on leased lots.

The new company was larger and more complex than the old CCC had been, hence relations between head office personnel in New York and those in Copper Cliff became more formal and structured. This increased formality and structure was also applied to relations between local officials and the town—and the officials had the power to shape the town. Their only restrictions were financial. They were obliged to obtain permission prior to the committing of funds to any endeavour. If differences existed

between the New York and Copper Cliff personnel, they were not obvious. Copper Cliff officials, many of whom were either citizens of the United States or American-trained, followed instructions in the same way as did any other INCO employee.

A house-building programme undertaken during the years 1912 to 1914 was designed to institute spatial segregation based on occupation. Specific occupations were clustered on specific streets, where the type of housing provided reflected the status of the occupation for which it had been built.[19] This is one of the first instances of planned occupational segregation in Ontario. Those non-Anglo-Saxons who were engaged in occupations for which the company had built dwellings were not accorded the privilege of renting company houses. At the insistence of the Ontario Board of Health, the provision of water and sewer services became part of the building programme. These services, however, were not extended to the non-Anglo-Saxon sections of the town, nor were they extended to employees at the lower levels of the occupational hierarchy. For example, the houses of company officials, supervisors, engineers, some semi-skilled employees, and clerical workers were connected to water and sewer lines, while the houses occupied by painters, carpenters and railway workers were not.[20]

After the 1902 merger, the same expectation of financial return on the house investment was held, by INCO as had been held by the formerly independent CCC. In 1903, Turner, then the CCC president in Copper Cliff, expressed a desire to build six houses at a cost of $600 to $800 each. He stated to the president of the parent company: "I should explain that these houses can be rented for enough to pay a very good interest on the investment."[21] A similar philosophy was echoed by A.D. Miles, assistant to CCC president John Lawson, when, in 1913, he suggested that the house building programme then underway in Copper Cliff would return 11 percent on the investment. Six weeks later, after having been appointed president in place of Lawson, Miles expressed dismay at the parent company's insistence upon a fixed return of 6 percent or more on all housing. He believed that the sudden introduction of a uniform return would negatively affect the skilled workers, whose rents for the new dwellings had already been established. Rental increases would have been required to realize the desired percentage, and Miles feared that such increases "would create a great deal of discussion and dissatisfaction."[22] Thus to the owning company, whether it was the CCC or INCO, the money expended on housing was an investment which was expected to generate an acceptable profit.

The municipal government of Copper Cliff became an arm of the company, and was maintained in that subservient position by local company officials who directed municipal politics. Elections did occur in Copper Cliff until 1905, when the company's candidate for mayor was defeated by a local merchant. The company responded to this opposition by withdrawing its patronage from the mayor's store, cancelling his land lease, and evicting him from the town.[23] Municipal officials, in particular the assessor,

were controlled either directly or indirectly by the company. Since it was on his evaluation that the company was taxed, the assessor was a key figure in company efforts to manage town finances. During the early years of municipal government in Copper Cliff, the position of assessor was filled by a series of male school teachers, each of whom occupied a company-owned house. The practice was discontinued in 1913 when the company appointed its first rental or real estate agent. This person was responsible for the renting and maintenance of company housing, and, as well, became the town assessor. Town expansion in the 1940s resulted in the creation of a real estate department within the company. Thereafter, a member of that department undertook the assessment duties for the town.[24]

The assessor was ultimately responsible for apportioning the tax burden between the company and those people within the town who owned houses and stores—and the company was not loath to pressure the assessor to gain an advantage for itself. The assessor, as either a tenant or an employee of the company, was subject to company control. In 1903, after the CCC had become a subsidiary of INCO, Turner wrote to the parent company's internal auditor concerning the Copper Cliff assessment. He assured the auditor that he had discussed reduction of the assessment with the assessor, and believed that a fair division between the citizens and the company had been achieved. The total assessment was $240 thousand, with the company's share being $140 thousand, and the citizens paying taxes on $100 thousand.[25]

The company's control of its town was intensified by the lack, for many years, of formally defined agents of law and order. Prior to incorporation, CCC foremen and supervisors had informally policed employee activities; for more serious offenses, such as murder, robbery, and bootlegging, the company had depended on the investigative and arresting powers of the Sudbury police force.[26] Following incorporation, and until the establishment of a formal police department in 1912, the town had hired part-time and special constables, most of whom were company employees.[27] In 1916, the CCC established its own police force, ostensibly to protect company property from damage by enemy aliens.[28] Actually, the company had been contemplating such an action since 1913, when it began to replace its watchmen with special constables "sworn in" by a district judge.[29] This system of special constables evolved into the CCC police force, which provided a police presence at all company installations and in all of the company's towns except Copper Cliff. The force was based in Copper Cliff, under the nominal authority of the Copper Cliff chief of police, and was paid through the Copper Cliff Town Council.[30] The sums expended on the company police force were substantial. For example, in 1944, the town had budgeted $5,535 for police salaries, and had received $306,355.02 from the company for its share of police services.[31] In his 1953 municipal return, the Copper Cliff Town Clerk explained why, with a

population of only 4,026, the towns had 154 police officers on its roster, by noting that the town sold police services to INCO for its towns and industries.[32]

The *Supplementary Revenue Act* of 1907, which imposed a provincial tax on mine profits,[33] removed industrial buildings and mine income from municipal jurisdiction, and in return, the Ontario Government gave municipalities grants plus a percentage of the annual mine profits tax.[34] Municipalities could still assess industrial income; most, however, chose to accept a proportion of the profits tax. Copper Cliff discontinued the assessment of income; and although the company continued to pay provincial tax on its profits, it benefitted from the new legislation which directed some of that tax towards the town. Changes in the Ontario Assessment Act of 1910 exempted from assessment all buildings, plant and machinery used for the extraction, storage, sampling or reduction of ores. Thus, the CCC smelters were no longer assessable, and the company's mineral lands continued to be assessed as farm land.[35] Obviously, housing provided the company with financial benefits directly through rentals, and indirectly through the government grants and apportionments accruing to the town. The company also benefitted from its land-leasing policy. The lot rentals were only a token four dollars per year. However, the lessees, as homeowners, were obliged to pay municipal taxes on their buildings, thereby reducing the company's financial obligations *vis-à-vis* the town. The institution of streetcar service between Copper Cliff and Sudbury in 1915, and the possibility of a commuting workforce, effected no change in the company's attitude toward its housing and town. Neither INCO nor the subsidiary CCC indicated a desire to relinquish the rental business.[36] An exodus of people from Copper Cliff did not occur until 1920, following the industrial shutdown which resulted from the post-World War I economic depression. Many of these people moved into Sudbury, and after the smelter and mines reopened in 1923, commuted daily, via the streetcar line, between Sudbury and Copper Cliff.

In 1929, INCO, as the CCC was known after 1919, and its chief rival in the area, the Mond Nickel Company, merged, and Copper Cliff became the administrative centre for the former Mond industries and towns. The roster of existing INCO towns—Copper Cliff, Creighton Mine and Frood Mine—was increased by the addition of the mining towns of Levack, Garson and the Frood Mind Extension, and the smelter town of Coniston. Mond administrative personnel were moved to Copper Cliff, where executive-type housing was provided.[37]

With the Mond personnel moves completed, in 1930, INCO began an extensive industrial expansion programme at Copper Cliff. The company built a new smelter, ancillary structures, a copper refinery and an acid plant. The programme was not followed by extensive house-building in the town. Unwilling to increase the size of Copper Cliff, the company announced that it expected Sudbury to house the enlarged workforce.[38] With the onset of the depression of the 1930s, decreasing mineral prices, and the prospect

of reduced production, INCO was not prepared to provide housing which might remain vacant. Moreover, Copper Cliff had become the showplace of INCO towns. It was larger than any of the others, and, as the administrative centre for company operations in the area, housed all of the senior management. The company was not willing to sacrifice the town's elite character to accommodate a larger workforce. Sudbury, therefore, became a bedroom community for Copper Cliff workers.

Despite its stated unwillingness to build more houses in Copper Cliff, the company did undertake one more large-scale development in that town. Immediately following World War II, INCO built 125 houses to accommodate the post-war workforce expansion. A chronic housing shortage in Sudbury had been exacerbated by the return of servicemen, the resumption of family life, and a movement of people into the area.[39] Thus, there were employees eager to occupy company-owned dwellings, and the company, anxious to produce for the expanding post-war market, was willing to provide housing to encourage the workforce to remain. Although this was the last of the large-scale housing programmes in Copper Cliff, it was not the last for the company. In 1950, INCO developed the Town of Lively, with 650 homes, on land it had purchased from the organized Township of Waters, west of Copper Cliff. This was solely a residential community; there was no industry in the town. As was its policy in organized townships, the company had Lively incorporated in 1951. Coincidentally, the provincial government began to share its mining profits tax more equitably by instituting Mining Revenue Payments in 1952. These were *per capita* grants, based on the number of mining employees living in an incorporated municipality. The presence of a mining industry within the municipality was not a prerequisite to receipt of these grants;[40] therefore, Lively would have qualified.

By the late 1950s and early 1960s, the company had become convinced that its housing investment was no longer profitable. Foremost among the reasons for this negative evaluation was the necessity of contributing financially towards the projects generated by the provincial government's insistence that broad areas of Northern Ontario co-operate in the provision of health, welfare, and transportation services, and in the management of water resources. The first co-operative project of consequence to the company was the erection in 1953, and the subsequent operation, of a Home for the Aged in Sudbury, for which all district municipalities were assessed.[41] Copper Cliff's share was second only to that of Sudbury; Frood Mine, INCO's smallest town (population 91), was assessed 1 percent of the total.[42] Thus, the company began to pay tax on an assessment, and to a municipality, neither of which it could control. Employing the prestigious Toronto law firm which handled legal matters for INCO, the Copper Cliff Town Council appealed annually to the Ontario Municipal Board (OMB) for reduction of its assessment for the Home for the Aged, and, in 1957, took its plea to the Supreme Court of Ontario. All appeals were unsuccessful.[43]

Another reason for the company's growing pessimism concerning the profitability of its housing was the increasing acquisitiveness of the City of Sudbury. This municipality, in the process of extending its influence and assuming a leadership role in the area, was also anxious to expand its boundaries by annexing the INCO company towns. The possibility of reinstated smelter assessment rendered Copper Cliff a most attractive target for Sudbury's expansionism, and INCO realized that if the City acquired Copper Cliff, the company's taxes would increase. In 1957, the City appealed to the OMB for the amalgamation of a number of organized and unorganized townships, and most of the INCO towns. The OMB allowed Sudbury to amalgamate only McKim township and the Town of Frood Mine.[44] Since INCO continued to own Frood Mine housing, it was required to accept Sudbury assessments, and pay taxes to that city.

The building of the Home for the Aged was followed by a number of enforced co-operative district projects, all centred in Sudbury, and all financially supported by district municipalities. The Copper Cliff Town Council was particularly incensed about the fees levied by the District of Sudbury Welfare Administration Board, and annually appealed to the OMB against the assessment.[45] The Council complained that its ever-increasing costs of administration were being further inflated by the Board's levy.[46] The rising costs of administration were recoverable only from taxes and government grants. Tax increases, and the use of INCO's tax money outside its towns, were not acceptable to the company. Thus events transpiring in Toronto and Sudbury rendered house-ownership less desirable for INCO.

The circumstances of company-house ownership in the 1960s had also altered. For years, INCO had budgeted only enough money for emergency repairs, and had never instituted regular programmes of house maintenance in any of its towns. Doors, windows, floors, roofs, bathrooms and plumbing all required either extensive repairs or replacement. The situation was worsened by the age and style of many of the houses. In Copper Cliff, 66 percent of the 500 company-owned houses standing in 1966 had been built prior to 1920. They were small, rested on wooden foundations, lacked basements, and were considered sub-standard by the company's real estate department.[47] While these older homes were the most decrepit, even those built during the 1940s required attention. By December 1962, the company had decided to divest itself of rental property by selling its housing to the employees. To condition the tenants to monthly mortgage payments considerably in excess of the modest rents which persisted, INCO gradually increased the rental charges,[48] and began to investigate methods whereby disposition of the property could be arranged conveniently, at little cost to itself.[49]

While the company was preparing its tenants for house ownership, the action of both Sudbury and the provincial government further reinforced its desire to rid itself of non-industrial property. Sudbury continued to seek the amalgamation of Copper Cliff;[50] and by 1968, regional government, which would

unite Sudbury and all of the INCO towns under one administration, was being promoted by the provincial government.[51] By 1967, the Mining Revenue payments had become substantial, and the Province amended the programme so that the grants would not exceed 50 percent of a municipal budget,[52] thereby reducing the amounts paid to mining municipalities. In 1970, smelters again became assessable, a regional assessment office was established,[53] and a movement to institute single-tier rather than double-tier regional government was gaining support.[54] INCO was not enthusiastic about regional government, single-tier or double-tier, nor about Sudbury's desire to annex its towns, nor about the cost increases it expected to experience with region-wide, equalized assessment and smelter taxation.[55]

Although the company had become even more eager to divest itself of its rental properties, it remained pragmatic concerning the profit motive, and was reluctant to become directly involved in the sale of individual houses, lest the federal government tax the profits. Therefore, a wholly-owned subsidiary—Nickel Basin Properties Limited (NBPL)—was established in 1971 to replace the real estate department and to control the sale of housing. INCO sold all of its housing *en bloc* to NBPL, and retained a mortgage for the value of the property. NBPL, which operated from offices in Sudbury rather than from INCO's General Office Building in Copper Cliff, was expected to repay INCO from the sale proceeds. Since all of the INCO towns had been built on property owned by the company, no subdivision plans had ever been filed with registry officials, and subdivision approval from the OMB was a necessary prerequisite to the sale of company land and dwellings. Therefore, the company belatedly prepared subdivision plans, NBPL forwarded them to the OMB, obtained approval of the plans from that body, and commenced the sale of houses and lots.[56]

On January 1, 1973, Sudbury amalgamated Copper Cliff, and at the same time, double-tier regional government became a reality.[57] The Councils of the individual municipalities involved in the Regional Municipality of Sudbury formed one tier of government, while elected representatives from each of these municipalities formed the second tier. By the end of the year, all housing units in Lively and Coniston had been sold,[58] and the company was preparing to sell the houses in Levack, Garson and Copper Cliff. The Creighton Mine townsite, which lacked municipal services, was destined for demolition. The cost of providing water and sewage systems would have been prohibitively expensive, and such systems were required before the OMB would approve subdivision plans.[59] Creighton began to disappear in 1985, and demolition was completed in 1988.[60] By 1985, most of INCO's residential properties had been sold, and in January 1986, NBPL was dissolved. Responsibility for the few remaining houses reverted to the accounting department of the General Office, and INCO remained responsible only for its industrial assessment.[61]

CONCLUSIONS

The CCC originally provided houses to accommodate the Anglo-Saxon element of its workforce, and to segregate that element from non-Anglo-Saxons. After the 1902 formation of INCO, housing was used to effect occupational segregation among the Anglo-Saxons—the only group for which company housing continued to be provided. Housing afforded the CCC, and later INCO, both power and profit. However, profit was the motivating factor for both companies.

These companies were not altruistic; they expected to realize a profit from the housing investment. Although rents were modest, they were designed to provide a predetermined return—one that was not eroded by a regular maintenance programme. Both companies avoided holding unprofitable inventories of vacant dwellings by correlating house-building and an obvious, demonstrated need for new dwellings. A further enhancement of financial return was engendered by the 1902 incorporation of Copper Cliff. Through control of the municipal government and the town assessment, and through receipt by the town of government grants, the company's share of municipal taxation was reduced. The company effectively controlled both elected and non-elected municipal officials through its house rental and land lease policies. It can be no surprise that company-owned housing persisted in Copper Cliff long after the need for it had ceased.

Thus, the common perception that company-owned housing was provided primarily to attract, retain, segregate and socially control a workforce should be re-examined. In the case of Copper Cliff, when the financial benefits of company-owned housing declined, none of the aforementioned factors was sufficiently important to encourage the company to continue its rental practices. Few companies would have risked incurring the wrath of their shareholders by doing otherwise, and it would be unrealistic to believe that company-owned housing in other Canadian company towns did not provide the owning companies with at least a modest profit.

APPENDICES

APPENDIX I

ETHNIC ORIGINS OF THE POPULATION OF COPPER CLIFF, 1901-1971*

YEAR	TOTAL	BRIT	FRE	AUS HUN	FINN	GER	JEW	ITA	POL	RUS	SCAN	UKR	OTHER
1901+	3,012	1,395	803	11	-	152	-	232	-	392	22	-	5
1911	3,082	1,168	251	260	-	72	3	620	126	537	22	-	23
1921	2,597	1,402	179	29	267	68	3	541	48	4	22	13	89
1931	3,173	1,370	284	17	491	58	3	682	134	-	32	36	66
1941	3,732	1,962	309	20	394	49	3	784	58	2	30	51	70
1951	3,974	2,170	320	83	-	-	4	825	48	5	36	51	462
1961	3,600	1,839	374	-	-	87	3	758	38	5	36	52	408
1971	4,100	2,225	600	-	-	120	15	625	15	5	15	50	430

* Derived from the Canadian Census Reports for 1901-1941, 1961-1971, and from unpublished Census data for 1951. This latter material was supplied by Census Canada.

\+ The data for 1901, collected prior to the incorporation of Copper Cliff, includes McKim, Snider and Waters Townships. Most of this population, however, lived in Copper Cliff.

The political-geographic definition of origin used by census officials obscured particular ethnic groups known, from other sources, to have been present in Copper Cliff. In the above table, the Poles, who had emigrated from the German-held provinces of Poland, were included among the Germans in the 1901 data. The Finns, whose country had been a province of Russia, were considered to be Russians for the 1901 and 1911 Census Reports. From 1951 to 1971, that national grouping was absent from the census data, and Finns were incorporated within the designation "other." The Ukrainians, until 1921, were counted among the Austro-Hungarians, who controlled the Western Ukraine, from which most Copper Cliff Ukrainians had emigrated. The Ukrainian population left Copper Cliff in 1920, following the industrial shutdown, and settled in Sudbury.

APPENDIX II
POPULATION CHANGES, 1891-1971, IN THE TOWNSHIPS, TOWNSITES, AND TOWNS DOMINATED BY THE CANADIAN COPPER COMPANY AND INCO*

Year	McKim Twp	Sudbury Town-City	Copper Cliff Town	Frood Town	Snider Twp	Waters Twp	Lively Town
1891	2,354[1]	-	-	-	50	-	-
1901	512	2,027[2]	2,500[3]	-	369[4]	129	-
1911	316	4,150	3,082	-	986	227	-
1921	440	8,621	2,597	-	1,157	455	-
1931	533	18,512[5]	3,173	173[6]	1,465	524	-
1941	5,105	32,203	3,732	70	1,726	722	-
1951	11,783	42,410	3,974	109	2,129	1,322	-
1956	7,641[7]			124[8]	-[10]		2,840[9]
1961	-	80,120	3,600	-	-		3,211
1971	-	90,535	4,089	-		2,064	3,000

*Table derived from the Canadian Census Reports, 1891-1971.

1. Includes McKim, Broder and Blezard Townships. Broder and Blezard were unorganized, sparsely-populated townships. Most of this population lived in McKim, and was divided between Sudbury and Copper Cliff.
2. Town of Sudbury incorporated 1892 and detached from McKim Township.
3. Town of Copper Cliff incorporated 1901 and detached from McKim Township.
4. Creighton Mine began to produce in 1900, and the Creighton Mine Townsite was established in Snider Township.
5. City of Sudbury incorporated 1931.
6. The Town of Frood Mine was incorporated in 1914. The Mine was closed in 1915 and the town abandoned. In 1929, the mine was re-opened and the town was re-built.
7. McKim Township amalgamated with Sudbury, January 1, 1960.
8. Frood Mine amalgamated with Sudbury, January 1, 1960.
9. Town of Lively incorporated 1951 and detached from Waters Township.
10. The population of Snider Township after 1951 was combined with the populations of other unorganized townships in the Sudbury area.

APPENDIX III
POPULATION CHANGES, 1901-1971, IN THE TOWNSITES AND TOWNS ACQUIRED BY INCO FROM THE MOND NICKEL COMPANY IN 1929*

Year	Levack Twp	Levack Town	Garson[1] Twp	Neelon Twp	Coniston Town
1901	-	-	105	140	-
1911	-	-	750	342	-
1921	252	-	710	1,528	-
1931	420	-	1,218	2,400	-
1941	40	895[2]	1,968	1,009	2,245[3]
1951	-	1,833	3,616	2,822	2,292
1961	3,178		5,286[4]		2,692
1971	2,965		6,195		2,940

*Table derived from the Canadian Census Reports, 1901-1971. There are no population figures available for these areas for 1891.

1. The Garson Mine and townsite, purchased by the CCC from Mond in 1929 is located in Garson Township.
2. Town of Levack incorporated in 1938 and detached from Levack Township.
3. Town of Coniston incorporated 1934 and detached from Neelon Township.
4. Neelon and Garson Townships combined to form Neelon-Garson Township.

NOTES

1. These aspects of company-owned housing are discussed from the Canadian perspective in a number of publications, among which are: Queen's University, Institute of Local Government, *Single Enterprise Communities in Canada* (Kingston: Institute of Local Government, Queen's University, 1953), pp. 98-104; Rex Lucas, *Minetown, Milltown, Railtown: Life in Canadian Communities of Single Industry* (Toronto: University of Toronto Press, 1971), pp. 23-24, 62-63; Gilbert A. Stelter and Alan F.J. Artibise, "Canadian Resource Towns in Historical Perspective," *Plan Canada*, 18 (March 1978): 10; L.D. McCann, "The Changing Internal Structure of Canadian Resource Towns," in Roy T. Bowles, ed., *Little Communities and Big Industries: Studies in the Social Impact of Canadian Resource Extraction* (Toronto: Butterworths, 1982), p. 74; D.D. Detomasi, "The Delivery and Financing of Housing," in D. D. Detomasi and John W. Gartrell, eds., *Resource Communities: A Decade of Disruption* (Boulder, CO: Westview Press, 1984), pp. 41, 43, 45, 48; John Douglas Porteous, "The Company Town," in his *Environment and Behaviour: Planning and Everyday Urban Life* (Reading, MA: Addison-Wesley, 1977), pp. 331, 333-37; John H. Bradbury, "Towards an Alternative Theory of Resource-Based Town Development in Canada," *Economic Geography*, 55 (April 1979): 154-155, 161; John H. Bradbury, "Instant Towns Policy in British Columbia," *Plan Canada*, 20 (March 1980): 19; A.K. Grimmer, "The Development and Operation of a Company-Owned Industrial Town," *Engineering Journal*, 17 (May 1934): 221-223; "Planning and Building a Modern Industrial Town in Northern Quebec," *Journal of the Town Building Institute*, 7 (1928): 11-12; Douglas Baldwin, "A Study in Social Control: The Life of the Silver Miner in Northern Ontario," *Labour/Le Travailleur*, 2 (1977): 83-85; Kasper D. Naegele, "Picture of a Maritime Mill Town," *Public Affairs*, 11 (December, 1947): 11-12.

2. H.W. Walker, "Canadian New Towns," *Canadian Planning Review*, 4 (1954): 6. Walker stated that it was a "well-authenticated fact that employers lose money on company-owned housing."

3. J.A. Walker, "Planning of Company Towns in Canada," *The Canadian Engineer*, 5 (1927): 147-48. Walker posits that companies expected to make a profit from the provision of housing.

4. INCO Archives, John D. Evans Diaries, August 30, October 2-9, October 26-27, 1886; June 11, 1889. INCO Archives, Box 086-44, LB1, letter from L.S. Woodbury, Copper Cliff, to H.P. McIntosh, Cleveland, August 1, 1890, pp. 364-366. INCO Archives, Box 090-38, LB1, letter from H.B. Paull, Copper Cliff to Thomas Smiles, Copper Cliff, November 4, 1889, p. 323. *Report* of the Royal Commission on the Mineral Resources of Ontario and Measures for Their Development (Toronto, 1890), pp. 103, 104.

5. Gilbert A. Stelter and Alan F.J. Artibise, "Canadian Resource Towns," pp. 9-10. L.D. McCann, "The Changing Internal Structure of Canadian Resource Towns," p. 61.

6. Fringe communities are shacktowns which develop on the outskirts of company towns, and are populated by people unwilling or unable to settle in the company town. The population usually includes European immigrants, French-Canadians, and sometimes Anglo-Saxon labourers who are not welcome in the company town. This type of community is discussed in: Queen's University, *Single Enterprise Communities*, pp. 87-90. William C. Wonders, "Parasite Communities of Newfoundland," *Community Planning Review*, 3 (1953): 27-29. S.D. Clark, "The Position of the French-Speaking Population in the Northern Industrial Community," in Richard J. Ossenberg, ed., *Canadian Society: Pluralism, Change and Conflict* (Scarborough: Prentice Hall, 1971), p. 67. Eileen Goltz, "Espanola: The History of a Pulp and Paper Town," *Laurentian University Review*, 6 (June 1974): 99-101.

7. INCO Archives, John D. Evans Diaries, August 8, 16, 17, November 12, 13, 29, 1888; April 4, 6, June 11, 17, 1889; March 21, April 11, May 9, 10, 1890; October 9, November 6, 1891. INCO Archives, Box 086-44, LB1, letter from E.D. Peters, Copper Cliff, to H.P. McIntosh, Cleveland, December 1, 1889, pp. 169-171. INCO Archives, Box 090-38, LB1, letters from J.N. Glidden, Copper Cliff, to Luc Morin, Herman Goschive and D.L. McKinnon, all of Copper Cliff, September 10, 1892, pp. 806-08.

8. INCO Archives, Box 086-44, LB1, letter from E. D. Peters, Copper Cliff, to H. P. McIntosh, Cleveland, October 18, 1889, p. 4.

9. INCO Archives, Box 086-44, LB1, letter from John D. Evans, Copper Cliff, to H.P. McIntosh, Cleveland, June 8, 1890, pp. 509-10.

10. INCO Archives, Box 086-44, LB1, letter from John D. Evans, Copper Cliff, to H. P. McIntosh, Cleveland, September 5, 1890, pp. 650-51.

11. INCO Archives, Box 086-44, LB2, letter from John D. Evans, Copper Cliff, to H.P. McIntosh, Cleveland, April 16, 1892, pp. 650-55.

12. *Ontario Statutes, 1869*, Chapter 27.

13. From 1850 to 1935 Ontario municipalities retained the right to tax both private and corporate incomes. *Province of Canada Statutes, 1850*, Chapter 67; *Province of Canada Statutes, 1851*, Chapter 110; *Ontario Statutes, 1936*, Chapter 1.

14. *Ontario Statutes, 1869*, Chapter 34. The Ontario Committee on Taxation, Volume 2, 1967, p. 304.

15. INCO Archives, Box 090-42, LB2, letter from A.P. Turner, Copper Cliff, to H.C. Meek, Dome Mine, June 20, 1911, p. 659.

16. INCO Archives, Box 090-42, LB5, letter from A.P. Turner, Copper Cliff, to H.P. McIntosh, Cleveland, July 18, 1900, pp. 429-31.

17. INCO Archives, Box 090-042, LB5, letter from A.P. Turner, Copper Cliff, to John MacDougald, Commissioner of Customs, Ottawa, December 12, 1910, p. 242; letters from A.P. Turner, Copper Cliff, to H.C. Meek, Dome Mine, June 13, 1911, p. 391, and June 20, 1911, p. 659.

18. INCO Archives, Box 090-42, LB6, letter from A.D. Miles, Copper Cliff, to W.A. Bostwick, New York, October 1, 1913, p. 617; letters from A.D. Miles, Copper Cliff, to W.A. Bostwick, New York, October 29, 1913, p. 636; November 4, 1913, p. 658, November 10, 1913, p. 679, and December 12, 1913, p. 737; letter from A.D. Miles Copper Cliff, to G.E. Buchanan, Sudbury, November 7, 1913, p. 687.

19. For details concerning the company housing built from 1912-1914, please see: Eileen Goltz, "A Corporate View of Housing and Community in a Company Town: Copper Cliff, 1886-1920," *Ontario History*, 82,1 (March 1990): 43-45.

20. INCO Archives, Box 092-040, LB2, letter from John Lawson, Copper Cliff, to W.A. Bostwick, New York, April 3, 1913, p. 329-331. Ontario Archives, Toronto, RG10, 1-B-1-D, Box 456, No. 32, Letter from Dr. W.E. George, District Officer of Health, North Bay, to Dr. J.W.S. McCullough, Chief Officer of Health, Toronto, November 20, 1913. Ontario Archives, Toronto, RG10, 1-A-1, Box 248, letters from George E. Sylvester, Mayor of Copper Cliff, to Dr. J.W. S. McCullough, Chief Officer of Health, Toronto, June 20, July 6, 1916. "Annual Report, Provincial Board of Health, 1913," *Ontario Sessional*

Papers, 1914, Paper No. 21, p. 46. "Annual Report, Provincial Board of Health, 1916," *Ontario Sessional Papers, 1917*, Paper No. 21, p. 40.

21. INCO Archives, Box 090-42, LB3, letter from A.P. Turner, Copper Cliff, to A. Monell, New York, February 6, 1903, p. 468.

22. INCO Archives, Box 090-042, LB6, letter from A.D. Miles, Copper Cliff, to John Lawson, Copper Cliff, August 30, 1913, p. 553. INCO Archives, Box 090-42, LB6, letter from A.D. Miles, Copper Cliff, to W.A. Bostwick, New York, October 11, 1913, p. 619. INCO Archives, Copper Cliff Inventory, Circa 1913-1915, p. 249-252; *Vernon's Sudbury and Copper Cliff Directory*, 1911-1919.

23. Ontario Archives, Toronto, Hanna Correspondence, A.P. Turner of Copper Cliff, RG8 I-1-1, Box 23. Town of Copper Cliff, Council Minutes, April 1, 1905; *Sudbury Journal*, November 9, 1905.

24. Town of Copper Cliff, Assessment Records, 1903-1972. INCO Archives, Box 092-40, LB2, letters from John Lawson, Copper Cliff, to W.A. Bostwick, March 6, 1913, pp. 50-52, and March 30, 1913, pp. 189-90; letter from F.P. Bernhard, Copper Cliff to James A. Beard, New York, December 16, 1913, p. 417.

25. INCO Archives, Box 090-42, LB3, letters from A.P. Turner, Copper Cliff, to James W. Beard, April 15, 1903, p. 736, and April 20, 1903, p. 755.

26. INCO Archives, Box 090-42, LB5, letter from A.P. Turner, Copper Cliff, to H.P. McIntosh, Cleveland, July 18, 1900, p. 429.

27. Town of Copper Cliff, Council Minutes, January 13, February 17, July 7, 1902; January 12, March 23, 1903; May 21, 1906; February 18, 1907; July 26, 1909; November 25, 1912; May 14, 1913. Town of Copper Cliff By-laws, By-law No. 23, January 26, 1903. Town of Copper Cliff, *Voters' List*, 1903, p. 2, 21; 1904, p. 3, 17; 1907, p. 13; 1908, p. 13. Town of Copper Cliff, Assessment Rolls, 1903-1916.

28. Town of Copper Cliff, Council Minutes, December 13, 1916; July 17, 1916. *Sudbury Star*, January 15, 1916, p. 4.

29. INCO Archives Box 090-42, LB6, letter from A.D. Miles, Copper Cliff to G.E. Buchanan, Sudbury, October 10, 1913, p. 614. INCO Archives, Box 093-42, LB1, letter from A.D. Miles, Copper Cliff, to W.A. Bostwick, New York, July 6, 1915, p. 130; *Sudbury Star*, January 15, 1916, p. 4.

30. The company reimbursed the Town of Copper Cliff on a monthly basis for the money expended by the town on wages for the company's police force. This is indicated in the Municipal Returns for the Town of Copper Cliff, found in: Ontario Archives, Toronto, RG19, F-4-C-1, Box 87, Copper Cliff—1900-1920; Box 88, Copper Cliff—1921-1948; Box 89, Copper Cliff—1949-1960; Box 763, Copper Cliff—1961-1968; and RG19, F-4-C-2, 615-10-2-10, Copper Cliff—1969; RG19, F-4-C-2, 631-19-2, Copper Cliff—1970; RG19, F-4-C-2, 622-17-3-4, Copper Cliff—1971.

31. Ontario Archives, Toronto, RG19, F-4-C-1, Box 88, Copper Cliff—1921-1948, Municipal Returns, 1944, letter from James Hazeldon, Clerk for the Town of Copper Cliff, to Miss L.R. Duncan, Assistant Supervisor, Department of Municipal Affairs, Toronto, September 23, 1944: "The amount which the International Nickel Company pays the town is based on the allocation of the Police Force over the company's property and plants."

32. Ontario Archives, Toronto, RG19, F-4-C-1, Box 89, Copper Cliff—1949-1969, Municipal Returns, 1953. Residents of INCO Towns referred to the company police force as the Copper Cliff Police, although they were quite aware that this force was company-controlled.

33. *Ontario Statutes, 1907*, Chapter 9.

34. *Ontario Statutes, 1908*, Chapter 50.

35. *Ontario Statutes, 1910*, Chapter 88.

36. *Sudbury Star*, November 10, 1915, p. 1.

37. *Sudbury Star*, October 20, 1928, p. 1; January 22, 1930, p. 9; January 25, 1930, p.7.

38. *Sudbury Star*, April 20, 1929, p. 1; July 10, 1929, p. 1.

39. INCO Archives, Rental Records, 1940-1950. Town of Copper Cliff, Assessment Records, 1940-1950. *Sudbury Daily Star*, March 12, 1947, p. 1; July 7, 1947, p. 9; September 23, 1947, p. 9. N.B. The *Sudbury Star* became a daily newspaper during World War II.

40. INCO Archives, Box C01-39, "Housing Distribution of Dwelling Units by Age, March, 1966," *Sudbury Daily Star*, January 2, 1950, p. 1; June 16, 1950, p. 1; May 1, 1951, p. 8; August 24, 1951, p. 9.

41. Town of Copper Cliff, Council Minutes, May 12, 1956; September 18, 1958; November 24, 1966. The Home for the Aged was expanded in 1958 and again in 1966, and Copper Cliff was assessed for a share of each expansion.

42. INCO Archives, Box 086-46, Town of Frood Mine, #J, Letter Binder—General Correspondence, 1953-54, "Sudbury District Home for the Aged: Schedule of Payments"; copy of "Return to the Department of Municipal Affairs," Town of Copper Cliff, Minutes, June 9, August 9, October 6, 1958.

43. Town of Copper Cliff, Minutes, February 27, March 7, April 9, May 16, 1956; October 15, 1957; February 25, 1959; December 9, 1963; January 19, November 24, 1966; October 31, 1967; August 13, 1971.

44. INCO Archives, Box 086-46, Town of Frood Mine, #L, Letter Binder—General Correspondence, 1957-58, "Application of the Corporation of the City of Sudbury for Amalgamation of the Towns of Coniston, Copper Cliff, Frood Mine, the Townships of McKim, Neelon and Garson, Blezard, and Waters, the Unorganized Townships of Broder, Snider, Falconbridge, and the N1/2 of the Township of Dill, and Lot 1, Concession 1 and 2 Inclusive in the Township of Creighton," 1957; #K, Letter Binder—General Correspondence, 1957-58, December 18, 1959, Re: The Application of the City of Sudbury for amalgamation . . . *op. cit.* The Ontario Municipal Board ordered that the Town of Frood Mine and the Township of McKim be amalgamated with Sudbury, and that lots 7-12 inclusive, Concession 1-6 inclusive in the Township of Neelon be annexed to the City of Sudbury. Order effective January 1, 1960. Town of Copper Cliff, Minutes, June 9, September 18, 1958.

45. Town of Copper Cliff, Minutes, June 16, 1964; January 19, November 24, 1966; October 31, 1967; December 9, 1968.

46. Town of Copper Cliff, Minutes, April 11, 1966.

47. INCO Archives, NBPL Documents, Intra-Departmental Memo—Real Estate Department, March 10, 1966, re: "Extraordinary Repairs Required: Real Estate, 1966"; Proposed Special Work, 1965—Intra-departmental Memo—Real Estate Department, March 10, 1964, Re: "Housing Cost, 1964"; "Distribution of Dwelling Units by Age, March, 1966." INCO Archives, Box C01-39, Housing, 1967, "Company Housing Information, November 6, 1967."

48. INCO Archives, Box C01-39, House Selling, Intra-Departmental Memos—Real Estate Department, November 2, 1962, "Proposed Real Estate Sales," and December 24, 1962, "Garson Housing"; Intra-Departmental Memo, Real Estate Department, December 3, 1962, "Proposed Real Estate Sales"; Coniston Subdivision, "Recommendation Re: Disposal of Company Property, Town of Coniston, Ontario Division [early 1960s]."

49. INCO Archives, Box C01-39, Divestment Correspondence, July 16, 1971, "Divestment of Residential and Commercial Property." INCO Archives, Box C01-39, "House Selling, A File on the KVP Housing Plan."

50. *Sudbury Daily Star*, April 3, 1968, p. 3; September 10, 1970, p. 1.

51. Ontario Municipal Board, *Report of J.A. Kennedy, Commissioner on the Sudbury Area Study*, May 1970. *Sudbury Daily Star*, October 22, 1968, p. 1; October 26, 1968, p. 3; November 7, 1968, p. 1; May 24, 1969, p. 1; May 27, 1969, p. 3.

52. Ontario Committee on Taxation, *op cit.*, 172.

53. Ontario Municipal Board, Report of J.A. Kennedy. *Sudbury Daily Star*, October 22, 1968, p. 1; October 26, 1968, p. 3; November 7, 1968, p. 1; May 24, 1969, p. 1; May 27, 1969, p. 3.

54. *Sudbury Daily Star*, October 13, 1971, p. 13.

55. INCO Archives, Box C01-38, Miscellaneous, "Estimated Increase in Cost to INCO Under Regional One-Tier Government."

56. INCO Archives, Box C01-39, Divestment Correspondence, August 23, 1971, "Divestment of Residential and Commercial Properties in the Sudbury Area"; September 7, 1971, file memo, "Divestment." INCO Archives, Box C01-39, Divestment Programme and Subdivision Plans, Memo, March 8, 1976, "Divestment Programme, 1971-1975."

57. Town of Copper Cliff, Minutes, December 27, 1972. *Sudbury Daily Star*, June 12, 1972, p. 1; January 2, 1973, p. 13.

58. INCO Archives, Box C01-38, Letters, Memo, April 18, 1975, "Nickel Basin Properties Limited, Proposed Rent Increase."

59. INCO Archives, Box C01-39, Divestment Correspondence, Memo, August 23, 1971, "Divestment of Residential and Commercial Properties in the Sudbury Area."

60. *Sudbury Daily Star*, February 26, 1985, pp. 1, 5.

61. Conversation with D. Taylor, Chairman of NBPL, December, 1985.

URBAN RESTRUCTURING AND REVITALIZATION: THE SUDBURY CASE STUDY

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INTRODUCTION

Since the turn of the century, Sudbury has been viewed as a resource-dependent community, closely linked to the economic fortunes of the two mining giants known as Inco and Falconbridge. Beginning in the 1970s, the continued applicability of this form of community-economic linkage came into serious question as the Sudbury area began to experience a dramatic process of decline due to the flagging fortunes of the nickel and copper mining sector. This reversal process was compounded by the presence of an inefficient and outdated municipal structure within the Sudbury Basin. The resulting downsizing of the regional population and employment base brought into clear focus the need for a new planning paradigm. The paradigm eventually selected was based upon the principle of the sustainable community. By the late 1980s, the impact of this new planning strategy was such that Sudbury could be considered as a community in transition, i.e., one that was moving from the conventional resource pathway of cyclical growth into a more solidly-based future founded on sustainable development. The study is positive in tone, as it suggests that under certain circumstances, a resource community can progress from a staples-oriented and boom-bust form of dependence to an urban economy based more on endogenous and regional influences.

HISTORICAL BACKGROUND

Sudbury began its existence as a company town of the Canadian Pacific Railway.[1] In 1883, it became one of the locations in Northern Ontario selected as a temporary construction centre for the railway company. At the time, the townsite was composed almost entirely of CPR employees. The railway company originally banned private enterprise, and ran all of the boarding houses and retail outlets in the village.[2] At the same time, the Jesuits established a parish known as St. Anne of the Pines.[3] The name is revealing, as it sheds light on the picturesque quality of the original townsite; it also suggests a sharp contrast to the image that was to emerge later. As the decade progressed, the future of the townsite bleakened due to the shift of the CPR operations to Biscotasing; with this move, the era of the railway company town came to an end. Only lumbering held limited promise for the future. Isolated from Toronto, and with only an indirect link to Montreal via the bustling centre of North Bay, there was every

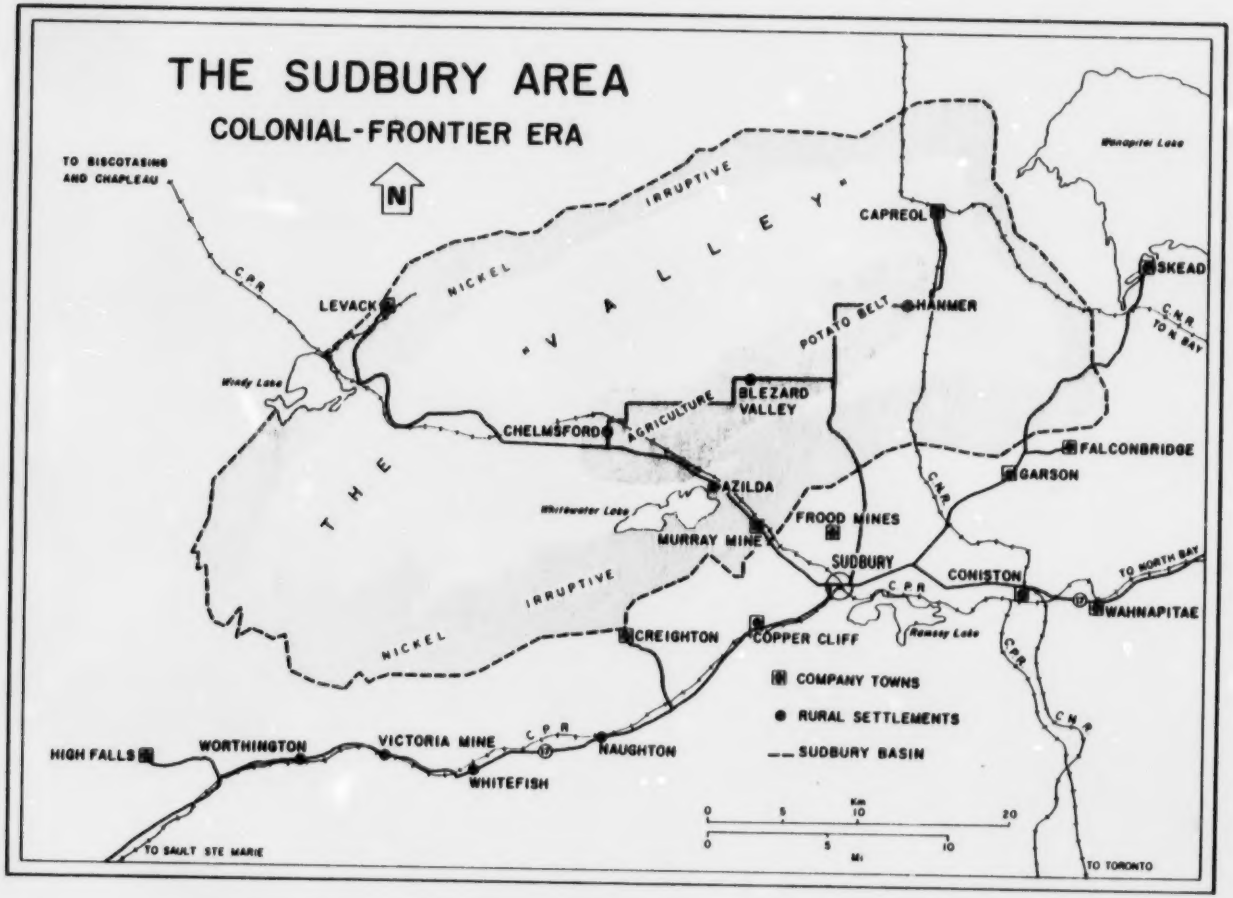


Figure 1. Geographical Setting of the Sudbury Area During the Colonial-Frontier Era. Compiled from various sources.

indication that Sudbury would simply become a CPR ghost town, as had many other construction camps along the main line.

The prevailing perception that Sudbury would continue only as a temporary settlement underwent drastic change following the discovery of a major geological feature nearby which contained valuable mineral deposits (Figure 1). This knowledge, however, did not lead to a "boomtown" form of expansion as happened later at Cobalt. By the turn of the 1890s, the Sudbury area had evolved into a colonial-frontier setting, featuring many of the characteristics of Thompson's "State of Export Specialization."[4] This metamorphosis was accompanied by the political maturation of Sudbury as a town in 1893.[5] The subsequent exploitation and settlement of the Sudbury Basin was, from the outset, subjected to several external influences. Economically, the mining sector fell under the control of American entrepreneurs, who brought with them outside capital, management and technology. The market setting, too, was international in scope. In 1902, the Canadian Copper Company, formed in 1886, became part of a new giant headquartered in New Jersey known as International Nickel.[6] From this time on, the Sudbury area became an integral and vital part of the Canadian "staples" economic network, functioning essentially to serve the American military-industrial complex. Within Canada, the image of Sudbury as being simply an "Inco" town took firm root in the public mind. The power and influence of Inco were expanded in 1928, when it absorbed its major rival, Mond Nickel.[7] In the same year, Falconbridge Nickel made its appearance on the local corporate scene.

The resource dependency of the Sudbury Basin made it highly susceptible to the exogenous vagaries of the international market. The boom-bust cyclical trends associated with the 1920s, the Great Depression and World War II contributed to a feeling of uncertainty and vulnerability regarding the long-term future of the Basin. The stressed environmental setting was palliated only slightly by the incorporation of Sudbury as a city in 1930.[8] External influences in the form of provincial mining policies also left their mark; indeed, here was an example of colonialism at its worst. Provincial policies as they affected the Sudbury area consisted solely of a series of expedients designed to attract foreign capital and to divert development benefits to the provincial, rather than local, treasury. Free rein was given to the mining industry regarding the local environment and working conditions. Sudbury's geographical location was highly externalized as well. It was this isolation that spurred Toronto commercial interests in 1908 and 1909 to acquire two direct railway links to the area.[9] This linkage enabled Toronto's commercial empire to compete with, and eventually overtake, that of Montreal, which, by virtue of the initial railway connection to the region, had enjoyed the prior advantage. From this time on, local merchants were faced with strong retailing and wholesaling pressures from Toronto. A similar competitive stress came from North Bay, which had emerged as the pivotal point for the expansion of the road network from

Southern to Northern Ontario after the completion of Highway 17 west to Sudbury and to Sault Ste. Marie in 1912.[10] This transportation network provided North Bay with a powerful locational advantage over Sudbury until the 1950s.[11]

The localized consequences of these externalities were profound. A number of elements evolved, which combined with one another to give the Sudbury area one of the highest levels of negative imagery in Canada. From an environmental perspective, the infamous roastyards, and the concomitant creation of slag and mine tailing zones, gave rise to impressions of the area as a barren and treeless landscape.[12] Despite the fact that the last of the roastyards was abandoned in 1929, the visual legacy of the primitive technology remained for decades. The provincial policy that mining companies did not have to pay property taxes like other industrial operations in Southern Ontario likewise had important consequences. Despite the implementation of provincial grants in lieu of taxes after World War II, studies made by the City of Sudbury in the 1950s concluded that mining payments from the province were the equivalent of only half of the revenue that Sudbury would have received as a typical, heavy-industrial, Southern Ontario community. The colonial-frontier atmosphere was enhanced by the presence of a widely-dispersed network of urban centres, many of which consisted of company towns. For instance, Copper Cliff, situated just to the west of Sudbury, emerged as the "Inco showcase," with comfortable homes appropriately segregated to conform with the employee's status within the company.[13] The Falconbridge townsite also emerged as a showcase for Falconbridge Nickel. The company-town mentality continued as late as the 1950s, as evidenced by the creation of townsites at Lively and Onaping Falls by Inco and Falconbridge Nickel respectively. While it is true that the company towns provided pleasant physical conditions for the residents, their impact on the socio-cultural and political development of the area was less positive. They reflected the reality of Walker's dictum that segregation in Canadian resource communities by class and race was not only desirable but necessary.[14] In this connection, Sudbury served as the external "fringetown" for both Inco and Falconbridge Nickel.[15] Since the company towns attracted virtually all of the white-collar employees of the mining industry, the net result for Sudbury was the lack of a representative middle and upper class, aside from a token number of doctors, lawyers and clergy. According to Harris, many of the above attributes were fundamental elements, which not only shaped the human landscape of the area, but also contributed to low levels of social and cultural well-being compared with other centres in Ontario.[16]

After World War II, Sudbury began to shed aspects of its previous colonial-frontier character and image. Unlike Thompson's model of the urban growth process, however, the postwar stage did not lead to his theoretical "Stage of the Export Complex," featuring the broadening of nickel and copper products to include other outputs and the strengthening of forward and backward linkages.[17] Rather, the Sudbury

area provided ample support for the contention by Watkins and Bourgault that staple economies have generally led to more of the same, as opposed to making a quantum leap into a diversified form of industrial economy.[18] This extension of the area's staple economy into the postwar era was again undergirded by the exogenous influence of the American military-industrial complex. Spurred by military needs related to the Korean and Cold Wars and an ever-increasing demand for consumer products, the American government deliberately set the stage for the creation of a powerful mining boom in the Sudbury and Elliot Lake areas during the 1950s. This economic boom, in turn, enabled the Sudbury Basin communities collectively to attain a critical population mass approaching that of a metropolis. In 1951, the population of the Sudbury area was in excess of 115 thousand; by 1961, this figure had increased to 138 thousand, by 1971, 170 thousand.[19] Within the Sudbury Basin, the changed spatial character of mining employment was paralleled by a fundamental reshaping of the population, resulting in the rapid settlement of the "Valley" in the heart of the Sudbury Basin and the development of urban sprawl west and south of the city. While the area exhibited a high degree of functional integration, politically, the Basin communities remained highly fragmented. The construction of Elliot Lake, a community of 25 thousand, between 1956 and 1959, was highly significant, as it fostered a rapid expansion of retailing and wholesaling opportunities for city merchants. The emergence of Sudbury as a central place was enhanced by the lessening of its geographical remoteness via improvements in transportation and communications. Especially important was the opening of the Sudbury-Parry Sound-Gravenhurst stretch of road in 1952-56.[20] The completion of Highway 69 to Toronto enabled Sudbury to serve as an alternative road entry point into Northern Ontario. This acquisition of what Burghardt has referred to as a "gateway function" was noteworthy, as it permitted Sudbury to emerge finally as a major competitor to North Bay within the Northern urban system.[21] The subsequent opening of Highway 144 in 1970, linking Sudbury with Timmins, again expanded Sudbury's sphere of influence into new spatial territory. These highway connections were complemented by the establishment of the Sudbury Airport, and the initiation of regular Trans Canada Airlines (now Air Canada) flights between 1952 and 1956.[22] Sudbury thus acquired a firm linkage with what James and Robert Simmons have called Canada's "main drag."[23] The role of the city as a central place in the 1950s and 1960s was given an added thrust through the construction of television and added radio broadcasting facilities, the growing sphere of influence of the *Sudbury Star*, the construction of three new hospitals, and the emergence of two post-secondary institutions.[24] The population threshold and enhanced geographical centrality, as noted above, were significant, as they set the basic precondition for the transition of the city into Thompson's third urban

FIGURE 2

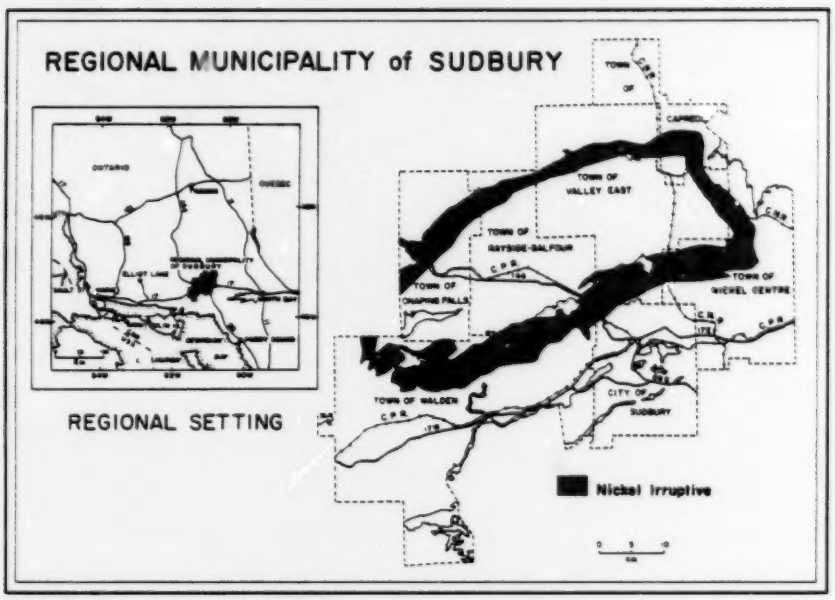


Figure 2. The Regional Municipality of Sudbury

stage known as "economic maturation" or "local service sector puberty."[25] Internally, the community underwent a process of metamorphosis and structural change featuring the introduction of land-useplanning, an expanded white-collar presence and the rise of unionism as a major institutional force. With the acceptance of land-use planning, the former *laissez-faire* attitude towards development began to wane. New socio-cultural attitudes associated with white rather than blue-collar concerns began to manifest themselves. Unfortunately, much of the progress made during the post-war era was overshadowed in the press by the intense management-union rivalry which occurred between Inco and Mine Mill Local 598. This rivalry, widely covered in the press, fostered potent images of the Sudbury area as being simply "a hotbed of unionism and communism."[26]

By the beginning of the 1970s, therefore, Sudbury had become a markedly different place from the city that had emerged after World War II. While resource dependency still provided the cornerstone of the local economy, new central-place functions had made their influence felt. Evidence of this transition from a purely extractive to a "functional nodal" type of central-place lies in the fact that Sudbury, by 1961 and 1971, succeeded in being the only community in Northern Ontario to attain what Preston has called a third order central-place level within the Canadian urban hierarchy.[27] Also, as Harris has demonstrated by means of social indicator analysis, Sudbury in 1971 reflected a new maturity with respect to its socio-cultural environment; indeed, it was in this year that the community's level of social well-being attained its highest peak with respect to the provincial norm.[28]

THE TURBULENT YEARS

The transformation process which took place in Sudbury after World War II was abruptly halted in the 1970s, when Sudbury found itself in the middle of what Emery has referred to as a "turbulent environment."[29] Urban and economic problems appeared which threatened the future viability of the city and the remaining Sudbury Basin communities. These problems captured widespread attention in the press, and images were forged that Sudbury had "hit bottom" and was "struggling to stay alive."[30] The urban crisis arose out of the population sprawl of the 1950s, and out of the inability of the fragmented political structure to deal effectively with regional problems on a regional scale. Initial attempts to rationalize the situation through amalgamations and annexations proved to be unsuccessful.[31] It was not until the unveiling of the "Design for Development" program in 1968 that any concrete action was taken to resolve the situation.[32] Following the publication of the *Sudbury Area Study* in 1970, a period of intense political debate took place; this culminated in the formation of the Regional Municipality of Sudbury on January 1, 1973 (Figure 2).[33] While this event marked a milestone in the political evolution of the region, it also brought with it a high debt load and a decade of controversy between the city and

the outlying municipalities regarding planning and servicing priorities. The controversy was evidenced by the fact that it took five years for a regional plan finally to be adopted. Regional government was criticized as well because of its unbalanced representation favouring the outlying towns, the establishment of an extensive and costly bureaucratic system, and the continuance of high municipal taxes.

The second dimension associated with the turbulent environment of the 1970s involved the drastic change in the global demand for mineral products, the reduction of mining-based employment and the consequent decline in the regional level of population. Due to increased competition from Third World producers, controversial investments made in tropical mining ventures and the OPEC crisis of 1973, Inco was forced to reduce its labour force in 1972, 1974 and 1977. The economic situation was worsened by the effects of a major strike against Inco in 1978-79. The strike was devastating both for the Sudbury area and for Inco. For Sudbury, it meant a resurrection of the "union town" image. Inco also suffered a major public relations setback; already buffeted by a changed attitude due to the construction of the "Superstack" in 1972 and charges in the federal parliament of being a "corporate bum," Inco was also charged by *Fortune* and *Canadian Business* magazines with having appalling labour relations and exhibiting colossal arrogance.[34] Falconbridge Nickel then followed Inco's lead in reducing its local labour force. The impact of these events on the region was devastating. In 1971, the regional municipality (using 1973 boundaries) had a population of 170 thousand; by 1976, this figure had dropped to 167 thousand, and by 1981, to 159 thousand. The Sudbury CMA gained the dubious distinction of being, along with Windsor, the only two metropolitan areas in Canada to experience population loss between 1971 and 1981. This population loss was paralleled by a reduction of mining jobs at Inco and Falconbridge--from an historical high of 25,676 in 1971 to a low of 17,744 in 1981 (and eventually down to 10,490 in 1987).[35] It was within this turbulent environment that an awareness began to develop within the regional municipality of the pressing need for a new planning paradigm based on the principle of sustainability.

TOWARDS SUSTAINABILITY

In the middle of 1984, Sudbury was selected by the OECD, the Government of Canada and the Province of Ontario as a successful case study of a declining community that had experienced significant urban-economic adjustment. The study, completed in 1985, concluded that the Sudbury area had already laid many of the political and planning foundations for the restructuring and revitalization of the regional economy.[36] The report focused essentially on the role of political factors in the recovery process; in this paper, however, it is asserted that other long- and short-term factors must be emphasized as well if the basis for this transitional phase is to be more fully understood. In all, seven distinct threads can be

identified which have assisted Sudbury in moving towards a more sustainable future: (1) the existence of a high population threshold; (2) the continued strengthening of Sudbury's central-place role in Northeastern Ontario; (3) the emergence of a white-collar power base; (4) a high degree of political and planning creativity; (5) a high level of assistance by the two senior levels of government; (6) the positive and innovative corporate readjustments made by Inco and Falconbridge in the post-OPEC period; and (7) the development of forward and backward linkages with the mining sector.

In assessing the dynamics of the adjustment process, that of the population threshold has been of paramount importance. According to the 1986 Census, the Regional Municipality of Sudbury still supported a population level in excess of 152,000. While this figure does not approach the hypothetical 250,000 figure often proposed as the basis for self-sustainability, it nevertheless functioned as a brake on the decline process. The fact that the Sudbury area constituted a declining metropolis provided it with an appropriate threshold for the initiation of power politics at the provincial and federal levels. As Thompson has noted, "no nation is so affluent that it can afford to throw away a major city."[37] Sudbury did not hesitate to use this political leverage to its fullest advantage at both the provincial and federal levels. In similar fashion, the community's size proved sufficient to support innovative opportunities for import substitution in several economic sectors such as graphics and printing, meat production, manufacturing and financial services. It deserves mention as well that the population now contains a high number of retirees from Inco and Falconbridge with comfortable levels of disposable income; indeed, at the present time, their numbers equal the existing labour force for the two companies.[38] The existence of these retirees has provided a solid foundation for the local economy.

A second factor has been the continuing geographical transformation and strengthening of Sudbury as a central-place in Northeastern Ontario via infrastructural improvements in transportation and communications. This trend has spurred a structural change from the community's previous "functional-nodal" status towards what Hall and Chesire have referred to as a "regional" form of centrality.[39] This latter type of nodality implies that regional central-place functions serve as the main expansionary force within the economy. Evidence of this growing regional role can be gleaned from assessing the impact of connectivity improvements and the enhanced role of Sudbury in the delivery of financial services and the provision of wholesaling and distributional facilities. By 1981, the cumulative effect of these changes had been such that Michalak was able to consider Sudbury as being a "service-administrative" centre within the Canadian urban context.[40] Additional support for this designation is also shown by the fact that in the same year, the share of tertiary employment for the City of Sudbury exceeded the average noted for either Canada or Ontario.[41] More recently, the appearance of several banking corporate headquarters has effectively made Sudbury the "Bay Street" of Northeastern Ontario.

The third impulse pertains to the changed sociological character of the population, i.e., the profound "cultural shift" associated with the rise of a middle class, along with its differing urban mentality and the shifting of the internal power base. The changed mentality was illustrated by the new sensitivities regarding quality-of-life issues, notably as they pertained to planning issues (e.g., building heights, open space and portable signs), and culture and recreation (e.g., the Sudbury Symphony Orchestra and the Sudbury Theatre Centre). These indications of a heightened "sense of place" were also spurred by the celebration of Sudbury's centenary in 1983. Perhaps the most noteworthy example of the new mindset, however, was the creation in 1978 of Sudbury 2001 as a community-based organization which had the objective of making the Sudbury area a sustaining metropolis by the turn of the century.[42] In historical terms, Sudbury 2001 was remarkable, as it heralded the transition from a reactive to a normative type of planning process. While the physical accomplishments associated with 2001 were minimal up to its demise in 1986-87, its long-term impact was nonetheless substantial. It played a major role in replacing the traditional pattern of confrontation within the community to one based on co-operation. The OECD study claims that the Sudbury 2001 experiment deserves serious consideration by any community facing economic difficulties.[43] The shifting of the internal power base was also evidenced by the gradual disappearance at the regional political level of populists in favour of representatives of a more professional bent.

The fourth transitional thread can be linked to the high degree of political and planning creativity associated with the Regional Municipality of Sudbury. Despite its initial shaky start, the regional municipality quickly came to the conclusion that it had to serve as the primary instrument for change and progress. With this new attitude, the regional municipality proceeded to implement a series of constructive actions framed around the philosophy of sustainable development. One of the first steps taken was to restore the local environment through a massive revegetation scheme beginning in 1978, involving the use of unemployed students and laid-off miners.[44] The "greening" of Sudbury has produced dramatic results. By 1984, the *Hamilton Spectator* was even moved to comment that "birch trees, lakes and grass—sprouting out of once black hills—form a beautiful backdrop to the city."[45] Since then, more than a million trees have been planted. Regional economic development was another major political thrust. In 1974, the regional municipality established the Sudbury Regional Development Corporation (SRDC) as an autonomous body made up of representatives from the business and industrial community, accountable to council, but with its own staff and budget.[46] Sudbury thus became one of the first municipalities in Ontario to recognize the need for a free-standing and co-ordinating agency to carry out the task of economic development, and to act as a catalyst funnelling relevant information between the community/private sector and the various levels of government. The efforts of the SRDC have

been assisted by the existence of relevant policy statements within the regional official plan and a separate economic development strategy specifically geared to the City of Sudbury.[47] Following the massive layoffs of 1982, the Chairman of the Regional Municipality of Sudbury, using the experience of Sudbury 2001 as a guide, instituted an immediate community-wide consultative mechanism. The purpose of this networking strategy was to determine the real "bottom" line for future employment prospects in the mining industry, and to ascertain the extent of community support for initiatives linked to short-term job creation and long-term economic diversification measures.[48] A focused vision for urban restructuring and revitalization was quickly developed, using a networking process involving all sectors of the community. To encourage practical solutions, the long-term vision was broken down into eight sectoral strategies, each headed by a task force. An evaluative and implementation stage based on the work of these eight sectoral task forces was then set in motion. Using a "grantsmanship" technique based on intense liaison with senior government officials, relevant proposals were then directly tied to existing sources of funding at both the provincial and federal levels. These "Team Sudbury" efforts proved to be very fruitful, particularly with respect to projects involving short-term jobs and the provision of health services.

A fifth element of the recovery process involved the substantial and direct investments made by the two senior levels of government. To a large degree, these investments can be linked to the decentralization of civil service jobs from Toronto and Ottawa to Sudbury. Following the 2001 Conference held in 1978, the Government of Ontario erected a new provincial building in the downtown Civic Square Complex. In 1984, Science North was also opened; its outstanding architectural style has since served as a catalyst for the emergence of a new community image. More recently, a series of decentralization moves and related construction projects has been implemented, which bodes well for the future sustainability of the region, including: a new head office building for the Ministry of Northern Development and Mines and the Mineral Resources Branch in downtown Sudbury (completed in 1991); the Northern Ontario Regional Cancer Clinic (also completed in 1991); and the Mining and Minerals Research Centre currently being erected at Laurentian University, housing the Ontario Geological Survey, a Miner's Health and Safety Centre and the Ontario Research Directorate for the Ontario Mining Association.[49] The Government of Canada likewise helped to stimulate the local economy through the construction of the Sudbury Taxation Data Centre in 1982. These projects, which provided several thousand new employment opportunities, greatly strengthened and diversified the regional economy; they likewise served to make Sudbury the undisputed political capital of Northeastern Ontario.

The sixth transitional element was the positive and innovative corporate responses of Inco and Falconbridge to the unsettled conditions of the 1970s. It was in this decade that the two companies first

TABLE 1

MIGRATION DATA FOR REGIONAL MUNICIPALITY OF SUDBURY (1980-81 - 1988-89)

YEAR	IN-MIGRANTS	OUT-MIGRANTS	TOTAL
80-81	6,421	7,478	-1,057
81-82	5,234	6,299	-1,065
82-83	4,193	6,463	-2,270
83-84	4,373	5,736	-1,363
84-85	4,230	5,493	-1,263
85-86	4,601	6,394	-1,793
86-87	5,519	6,243	- 724
87-88	6,149	6,161	- 12
88-89	7,229	5,518	+1,711

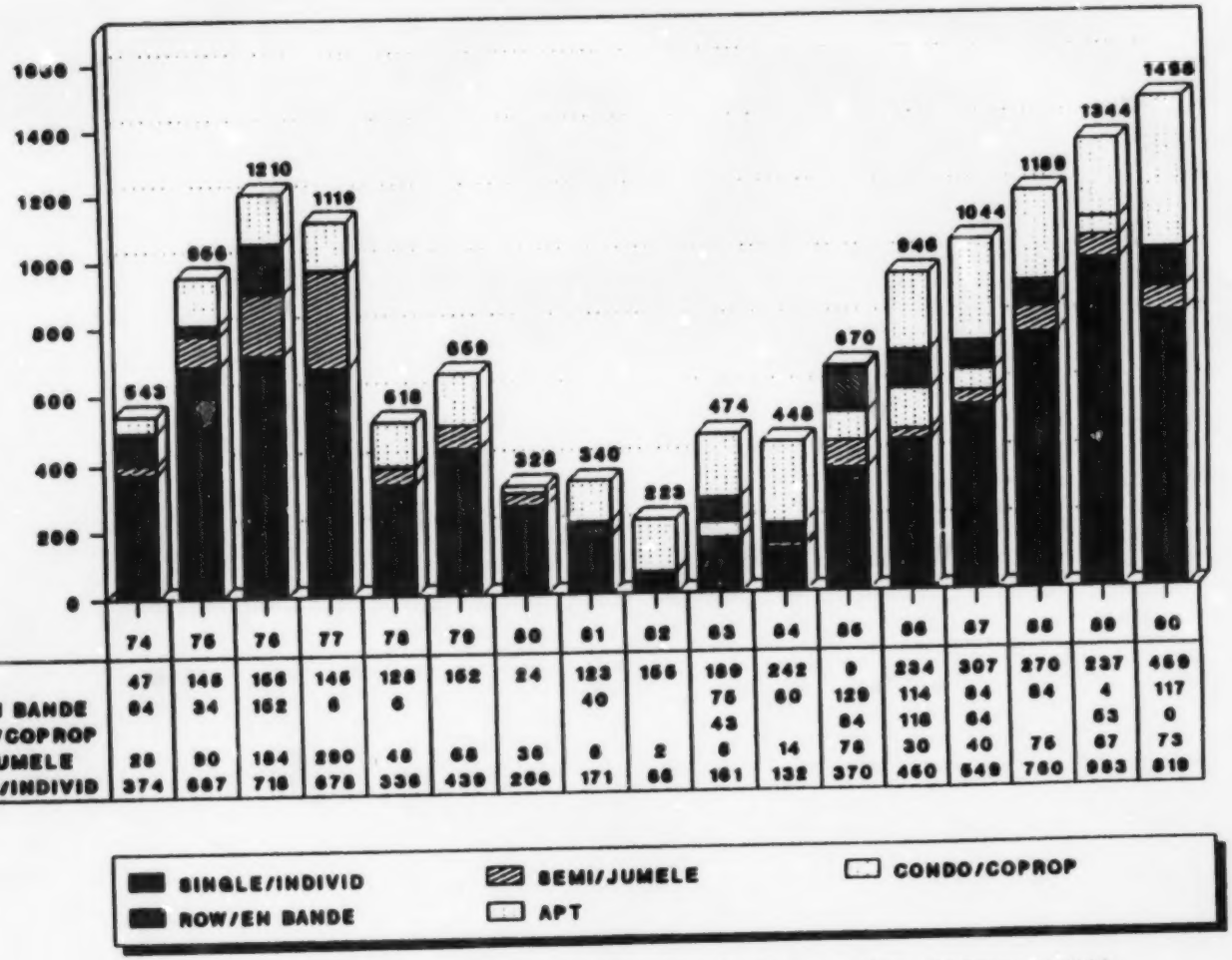
Source: Statistics Canada, Migration Estimates From Tax Records For the Post 1981 Period (Ottawa: Administrative Data Development Division).

reacted to the altered state of the world's mining economy through the use of cost-cutting measures involving labour reductions, production cutbacks and the divestment of operations in place. During the 1980s, however, their corporate strategies came to emphasize greater efficiency through long-term programs linked to formal productivity improvement programs. In line with these objectives, innovative mining technologies have been adopted, utilizing mechanized mining equipment, automated systems, electrified operations and continuous mining techniques.[50] The effects of these new strategies have been impressive; during the 1980s, Inco and Falconbridge experienced productivity increases on the order of 70 and 100 percent respectively.[51] A significant event occurred in 1988, when Inco, for the first time since 1979, again began to hire new miners.[52] The corporate responses of these two firms hold considerable promise for the future viability of mining operations, as they suggest that many of the necessary transformations required for the 1990s are already well in place.

The final aspect of the transitional process can be identified with the belated emergence of forward and backward linkages with the mining sector. Recent changes in this area of economic activity suggest that the Sudbury area may finally be on the threshold of entering Thompson's "State of the Export Complex."[53] It will be recalled that this stage failed to gain any momentum during the boom years of the 1950s. Forward linkages have focused on the development of the Sudbury area as a centre for the creation and export of innovative mining technology. An example of this broadening of the resource base from mineral extraction alone to a more information-based system of technological development includes the formation of Continuous Mining Systems by Inco. This initiative reflects an attempt to diversify the mining economy through the more sustainable avenue of technologically-based exports. Attempts are now underway to broaden this base to include environmental technology. Backward linkages have been intensified as well. This phenomenon has evolved from the transfer of numerous mining-based wholesalers and distributors from many other parts of the world to the Sudbury area, to serve not only the Sudbury Basin but the mining base of all of Northern Ontario. The centrality of Sudbury in this regard is made evident by the fact that some 90 mines can be found situated within a distance of 300 kilometres.[54] In terms of localized manufacturing, there has been a shift in the pattern of local production away from basic heavy consumables such as nails and lumber to machine parts and more specialized equipment of a higher technological level. This trend has helped to foster an increase in the number of manufacturing firms in the Sudbury area from 112 to more than 150 between 1983 and 1988.[55]

The cumulative effects of these seven impulses finally began to be manifested positively around the late 1980s. Net migration figures for the Regional Municipality of Sudbury, for instance, revealed a significant reversal by 1988-89 (Table 1). Similar patterns could be observed for other key economic indicators such as airport traffic, building permits and dwelling starts (Figure 3). It is pertinent to note that

SUDBURY STARTS BY DWELLING TYPE
EN CHANTIER GENRE DE LODGEMENT



	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
APT	47	145	166	145	128	152	24	123	155	189	242	9	234	307	270	237	469
ROW/EN BANDE	64	34	152	8	6			40		75	60	129	114	84	84	4	117
CONDO/COPROP										43		84	116	64		63	0
SEMI/JUMELE	28	80	184	280	48	68	36	8	2	8	14	78	30	40	76	67	73
SINGLE/INDIVID	374	687	718	675	336	439	268	171	66	161	132	370	460	549	780	983	819

Figure 3. Housing Starts in the Sudbury CMA (1974-1990).

Source: CMHC, Local Housing Market Report: Last Half 1990, Canada Mortgage and Housing Corporation, Sudbury, 1991, n.p.

this revitalization process has been paralleled by a restructuring of the economic base. Whereas in 1971 the mining sector employed close to 40 percent of the labor work force of the region, by the beginning of the 1990s, the figure had dropped to 14 percent.[38] At the same time, the decreased job opportunities in the mining sector since 1971 have been more than offset by an increased level of employment within the Sudbury CMA, from 67 thousand in 1971 to more than 70 thousand in 1986. These trends suggest that Sudbury is beginning to achieve its long-term objective of developing into a sustainable community.

CONCLUSION

Sudbury began its history as a minor appendage to the CPR transcontinental railway line. Due to the discovery of minerals in the nearby Sudbury Basin, the community emerged at the turn of the century as a specialized resource community completely dominated by exogenous influences. Economically, it became a vital part of the colonial "staples" system, linked to the American military-industrial complex. Politically, a similar pattern of colonialism took root in the form of exploitive provincial policies. Geographically, Sudbury was highly constrained by a peripheral location *vis-à-vis* North Bay and Toronto. In turn, these exogenous influences gave rise to a number of consequences at the local level, which combined with one another to give Sudbury one of the most negative community images in Canada. A new stage of metamorphosis began to occur during the boom years of the 1950s. While many elements of the area's previous colonial-frontier character remained in place, the acquisition of a metropolitan population threshold permitted Sudbury to acquire a "functional-nodal" status within Northeastern Ontario, and an improved competitive position relative to North Bay. This post-war transformation was abruptly halted in the 1970s by turbulence linked to urban restructuring and economic decline. Faced with these grim realities, a growing awareness developed of the need for a new planning paradigm based on the concept of a sustainable future. This progression towards a more sustainable future has evolved within the framework of seven distinct threads. These threads have combined to enable the Sudbury area to embark on a new urban/economic future based on endogenous rather than exogenous determinants.

NOTES

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2. Ibid., pp. 8-10, and Gaetan Gervais, "Sudbury, 1883-1914," in *To Our City/À Notre Ville* (Sudbury: Sudbury Centennial Foundation, 1983), p. 17.

3. Gervais, *To Our City*, p. 19

4. Wilbur R. Thompson, *A Preface to Urban Economics* (Baltimore: Johns Hopkins Press, 1965), p. 15.

5. Charles Dorian, *The First 75 Years: A Headline History of Sudbury, Canada* (Ilfracombe, Devon, 1959), pp. 4-5.

6. Executive and Operating Staffs, "The Operations and Plants of International Nickel Company of Canada Limited," *Canadian Mining Journal*, 67,5 (1946): 313.

7. Ibid., pp. 314-15.

8. "Seen as passing camp city fooled founders," *The Sudbury Star*, Royal Visit Edition, June 2, 1939, p. 12.

9. Gervais, *To Our City*, p. 25.

10. "Hub of the north since early in the century," *The Sudbury Star*, Sudbury Centennial Edition, May 31, 1983, p. C20.

11. This can be inferred from Neil Alexander Wilson, "Evolution of Network Configurations and Optimal Link Additions in the Northern Highway Network," M.A. Thesis, Queen's University, 1975, pp. 33, 111, 116-17.

12. Keith Winterhalder, "Environmental Degradation and Rehabilitation in the Sudbury Area," *Laurentian University Review*, 16,2 (1984): 18-19. The history of roastyard operations in the Sudbury area is traced in Claude Laroche et al., *Early Roasting and Smelting Operations in the Sudbury Area: An Historical Outline* (Sudbury: Ontario Ministry of the Environment, Experience '79 Program, 1979).

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16. Judith E. Harris, "Well Being in Sudbury 1931-1971, *A Social Indicator Analysis*," M.Sc. Thesis, University of Guelph, 1977, p. 167.

17. Thompson, *Preface*, p. 16.

18. Mel Watkins, "The Staple Theory Revisited," *Journal of Canadian Studies*, 12,5 (1977): 86, 87, and Pierre L. Bourgault, *Innovation and the Structure of Canadian Industry* (Ottawa: Science Council of Canada, Special Study No. 23, 1972), pp. 42, 51.

19. These figures refer to the geographical area now encompassed by the Regional Municipality of Sudbury.

20. Saarinen, "Sudbury, 1945-1983," in *To Our City*, p. 47.

21. A. Burghardt, "A Hypothesis about Gateway Cities," *Annals of the Association of American Geographers*, 61,2 (1971): 269-85.

22. Saarinen, "Sudbury, 1945-1983," p. 45.

23. James and Robert Simmons, *Urban Canada* (Toronto: Copp Clark, 1969), pp. 66-78.

24. Saarinen, "Sudbury, 1945-1983," pp. 47, 49.

25. Thompson, *Preface*, pp. 15, 16.

26. See, for example, "Boudreau blames ignorance for Red control of mine-mill," *The Sudbury Daily Star*, December 10, 1959, p. 1 and "Must prove Sudbury not Communist area," *The Sudbury Daily Star*, October 10, 1959, p. 13.

27. Richard E. Preston, "The Canadian Central Place System," in *Cultural Dimensions of Canada's Geography*, edited by Frederick M. Helleiner (Occasional Paper 10; Peterborough: Trent University, Department of Geography, 1984), pp. 296-97, 307.

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29. The use of this term has been derived from F.E. Emery, "The Next Thirty Years: Concepts, Methods and Anticipations," in *Towards a Social Ecology: Contextual Appreciation of the Future in the Present*, edited by F.E. Emery and E.L. Trist (London: Plenum Press, 1972), pp. 52-56.

30. "Canadian mining town hits bottom", *The New York Times*, August 14, 1982, p. 2 and "Sudbury: A city struggling to stay alive", *The Toronto Star*, August 23, 1982, pp. A1, A4.

31. Saarinen, "Single Sector Communities," p. 50.

32. Province of Ontario, *Design for Development Phase Two* (Toronto: Legislature of Ontario, 1968).

33. For a review of the regional government process, see Saarinen, "Municipal Government in Northern Ontario: An Overview," *Laurentian University Review*, 17,2 (1985): 5-25; J.A. Kennedy, *Sudbury Area Study* (Toronto: Department of Municipal Affairs, 1970); Ontario Department of Municipal Affairs, *Sudbury: Local Government Reform Proposals* (Toronto, 1971) and Province of Ontario, *Bill 164: An Act to Establish the Regional Municipality of Sudbury* (Toronto, 1972).

34. Val Ross, "The Arrogance of Inco," *Canadian Business*, 52,5 (May 1979): 44-55, 116-42.

35. Information provided by Inco and Falconbridge Ltd.

36. Community Planning Programs Division, Ontario Ministry of Municipal Affairs and Housing, *Project Group on Urban Economic Development Case Study Report: Sudbury, Ontario, Canada* (Paris: OECD, 1985).

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39. Peter Hall and Paul Cheshire, "The Key to Success for Cities," *Town & Country Planning* (February 1987): 51.

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43. Community Planning Programs Division, *Project Group*.

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45. "Sudbury likes new look", *The Spectator*, October 10, 1984, pp. A1, A12.

46. Community Planning Programs Division, *Project Group*, p. 20.

47. Regional Municipality of Sudbury, *Official Plan for the Sudbury Planning Area* (Sudbury, 1978), pp. 29-35 and *Draft Strategic/Corporate Plan of/by/for/the City of Sudbury* (Sudbury, 1987).

48. Community Planning Programs Division, *Project Group*, pp. 25-30.

49. See Ontario Ministry of Northern Development and Mines, *Moving Up*, 1 (1986): 2-3, and "Sudbury's good times return with building booms," *The Toronto Star*, May 24, 1988, p. A20.

50. These strategic programs are outlined in Inco, *Annual Reports 1982-1987*, Toronto, and Falconbridge Ltd., *Annual Reports 1986-1987*, Toronto.

51. Inco, *Annual Report 1987* (Toronto, 1988), p. 7, and information provided by Falconbridge Ltd.

52. "Fortunes high, Inco to hire 160 full-timers," *The Sudbury Star*, March 17, 1988, p. 1.

53. Thompson, *Preface*, p. 15.

54. Information provided by the Sudbury Regional Development Corporation.

55. "Sudbury a major centre in more ways than one," *The Sudbury Star*, April 16, 1988, p. Review-7.

56. SRDC, *Annual Report 1989-90* (Sudbury Regional Development Corporation, 1991), p. 9.